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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/816,318	03/28/2001	Ravi Prakash	CHA9 2001 0003US1	4786
23550	7590	10/18/2005	EXAMINER	
HOFFMAN WARNICK & D'ALESSANDRO, LLC			AMINI, JAVID A	
75 STATE STREET			ART UNIT	
14TH FL			PAPER NUMBER	
ALBANY, NY 12207			2672	

DATE MAILED: 10/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/816,318

Applicant(s)

PRAKASH ET AL.

Examiner

Javid A. Amini

Art Unit

2672

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 10-15, 22, 23 and 26 is/are rejected.
- 7) ☒ Claim(s) 4-9, 16-21, 24-25 and 27 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/02/2005 has been entered.

Allowable Subject Matter

1. Claims 4-9, 16-21, 24-25 and 27, objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 4-9, 16-21, 24-25 and 27, allowed, because of the following algorithm to the first image data: $V_o = K_h * K_v (V_1 + V_4 - V_2 - V_3) + K_h (V_3 - V_4) + K_v (V_2 - V_4) + V_4$, wherein V_o is a data point of the rotated image; V_1 , V_2 , V_3 and V_4 are first image data points that each incorporate a portion of V_o ; and K_h and K_v are fractions that are functions of skew angle and data point location of the first image.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 1-3, 10-15, 22-23, and 26 rejected under 35 U.S.C. 103(a) as being unpatentable over Nuio Tsuchida et al. (hereinafter refers as a Nuio), and further in view of over Sung-II Chien (hereinafter refers as a Chien).

2. Claims 1-2, 10, 23 and 26.

Nuio on page 527 at second col. section II discloses that in order to rotate an image by an angle of θ , it is necessary to calculate the equation (1), which is a kind of affine transformation, for each coordinate of every pixel. Since (1) contains four multiplications and two additions, it takes a very long time of actual calculation for an image made up of a lot of pixels. Therefore, in many image processors, e.g., (1), only a base pixel is rotated by the calculation of (1), and the rotated X and Y coordinates for the neighboring pixel are obtained by adding $\cos \theta$ and $\sin \theta$ to the X and Y coordinates of the rotated base point, respectively. The other rotated coordinates are obtained with repeats of the same procedure. An image is rotated very quickly with this method, since it does not require any treatment except two additions of decimal fractions and the procedure to find the nearest pixel for calculated coordinates. However, it is necessary to be aware of the fact that large coordinate errors may be accumulated by continuous additions, especially in the case of a small-scale 8-bit microcomputer. Nuio has developed quite a new method of rotating an image in the same manner as a rectangle is skewed to a parallelogram by a horizontal force, and restored to the rotated original rectangle by skewing with a vertical force. "A method of rotating a first image in an image buffer, (Examiner's interpretation: initial image data from the image buffer is obvious because the images should be stored temporally or permanently in the memory or buffer areas) the method comprising the steps of: extracting first image data from the image buffer". Nuio Fig. 6(a)-(d) shows the original and rotated images made up of 256 X 256 pixels.

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Here Nuio is applying the rotation angles within 45, since an arbitrary rotation angle can be obtained easily by adding or subtracting this angle to/from that of integerfold of $\pi/2$, and the rotation error of the Y coordinate increases rapidly with approach of the angle to 90 as will be mentioned afterwards. In these conditions, the rotation method is tolerable for practical use since the deterioration in image quality is not so noticeable (Examiner's interpretation: i.e. equivalent to what Applicant claims as "substantially free of aliasing error..."), see following statement: "creating a rotated image substantially free of aliasing error using weighted sums of a plurality of data points of the first image". Nuio in fig. 1-3 illustrates a plurality of data points of the images, e.g. X_1 , Y_1 , X'_2 , Y'_2 , and so on. For more information see Nuio on page 527, at second col. section "A". The following step is obvious, because a person skill in the art would have used the same terminology as: "wherein weighting depends on a skew angle of the first image and data point location in the first image" Nuio in figs. 6c-d illustrates the weighting depends on a skew angle. Nuio does not explicitly specify the document is a scanning document, however, Chien on page 486 under "*C. Coarse Block Rotation*" teaches the step of the scanning document. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Chien into Nuio in order to accomplish the current claim invention.

3. Claim 3,

The method of claim 1, further comprising the step of storing the first image data in a database. The computer in the claim 1 can be considered as a database.

4. Claim 11.

The system of claim 10, wherein the data points of the initial image are in adjacent rows of the image buffer. Chien in fig. 3 illustrates the adjacent rows and columns.

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5. Claim 12.

The system of claim 11, wherein a pair of data points are used from each of the adjacent rows of the image buffer. The step is obvious because Chien in equation 1 illustrates the data points by $(x, y, x'$ and $y')$.

6. Claim 13.

The system of claim 10, further comprising an image generation module configured to create the initial image. Chien in fig. 4 illustrates the rotation of an image that is the same as an initial image.

7. Claim 14.

The system of claim 13, further comprising a scanner for supplying data to the image generation module. See rejection of claims 1-2 and 10.

8. Claim 15.

The system of claim 10, further comprising a database configured to store initial image data. See rejection of claim 3.

9. Claim 22.

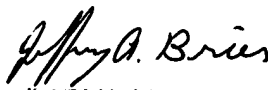
The step of "A workstation comprising the system for rotating an initial image stored in an image buffer of claim 10" is obvious because a person skill in the art could have installed the computer mentioned on page 488 in first col. lines 17-20 in Chien into the network with a server. Then the computer refers as the workstation. Otherwise the applicant should be willing to specify the significant of the term used as "a workstation".

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Javid A. Amini whose telephone number is 571-272-7654. The examiner can normally be reached on 8-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi can be reached on 571-272-7664. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


JEFFREY BRIEL
PRIMARY EXAMINER

Javid A Amini
Examiner
Art Unit 2672

Javid Amini